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THE UNIVERSITY OF ALBERTA

THE FAMILY RELATIONS TEST:
LINKAGE RESPONSE AND PROPORTIONATE DISTRIBUTION BY SEX AND BIRTH ORDER

by

Ⓒ CECILIE T. LORD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "The Family Relations Test: Linkage Response and Proportionate Distribution by Sex and Birth Order" submitted by Cecilie T. Lord in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology.

Peter Calder
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Date ....June 16........1976

ABSTRACT

The present investigation was carried out to acquire information needed for future norming procedures of The Family Relations Test (FRT). Issues regarding administrative problems and selection of sample have been discussed in the literature, though not yet examined nor resolved. The purpose of the study was therefore to investigate the frequency of what has been termed the "linkage response" and to establish its possible dependence on birth order and sex. The study also examined whether children of different sex or birth order groups responded differently to the FRT.

The FRT was administered to 88 grade 3 and 4 Edmonton public school children in the 8-10 year age group. The subjects had to fit into four birth order categories: only child, first born, second born or youngest child. Total Involvement Scores, Positive Involvement Scores and Negative Involvement Scores were calculated for each of the variables on the FRT: Nobody, Self, Father, Mother and Siblings. The results were computed using Chi-square tests of independence and two way analysis of variance.

It was found that 64% of children produced linkage responses on the FRT. The only child produced more linkage responses than any other group, the difference between the only child and the second born being significant at the .05 level. The character and proportionate distribution of the response itself did not vary much with order of birth, except in the case of the only child. Also, the sex of the subject did not influence the general response pattern on the FRT to a significant degree.

In contrast to the hypothetical model of distribution presented in the FRT manual (Bene & Anthony, 1957), it was found in the present study that parents obtained an equal share of mentions on the FRT. Also, involvement with siblings superseded that with parents. Otherwise the present research confirmed several findings of previous FRT research. The study provides means and proportionate distributions for the 5 variables of the FRT and also indicates where differences due to sex or birth order of the child can be expected.

It was considered that future norms for the 8-12 age group may not need to provide separate data for boys and girls. Also birth order differences were sufficiently small to be controlled for by selecting a sample representative of the general population. A caution should, however, be issued against comparing the only child's response to those of children with siblings, as the only child's profile was somewhat different. Finally, the study contains an outline of a procedure for dealing more efficiently with the tabulation of the linkage response. It is suggested that statistical and clinical requirements can both be satisfied without change in basic FRT administrative procedures.

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CHAPTER I

INTRODUCTION

As a growing number of counsellors see the need to focus on the whole family rather than on the identified patient (Dreikurs, 1964; Satir, 1967; Kantor & Lehr, 1975) an instrument which can identify emotional relationships within the family becomes increasingly useful. The Family Relations Test (FRT) is such a tool (Bene & Anthony, 1957). It was published in London, England in 1957 by the psychologist Eva Bene and the psychiatrist James Anthony. Upon publication the test was well received in the field of child psychiatry (Dubo & Rabinovitch, 1958). Since then writers in other fields have noted the potential of the test as a clinical and research tool (Sundberg, 1958; Buros, 1959; Rabin & Haworth, 1960). In more recent times the test has been explored in the U.S. and Canada (Bene, 1973; Frost, 1969; Frost & Lockwood, 1973; Kauffman, 1970; Kauffman, et al, 1971, 1972, 1973, 1975). The conclusion of such research is favourable with regard to the validity and reliability of the test. It is also agreed that the test deserves more attention by clinicians and researchers alike. Kauffman (1971) who has published the majority of the research done on the FRT concludes:

> 1. The Family Relations Test can discriminate significant differences in perceived family relationships among several populations of children within diagnostic groups.
>
> 2. The Family Relations Test may be of clinical value in exploring and interpreting aspects of dynamic family relationships and is worthy of additional research.

Test Description

The material of the FRT was designed to give a visual representation of the child's family (Bene & Anthony, 1957). The child is asked to select from twenty relatively stereotyped paper figures people to represent all the members of his family including himself. These figures are then arranged in a half circle in front of the child. They are all attached to a paperbox with a slit on top. The child is next presented with a series of messages printed on cards. The examiner reads the messages and the child puts each card "into the person" whom he thinks the message fits best. If the message fits more than one person the child is allowed to assign the card to the relevant people and this information is included in the scoring. If the message fits nobody, the child puts the card into "Mr. Nobody," a paper figure added to the family by the examiner at the beginning of the test. During the testing the child therefore has the option of assigning the messages to Self, Father, Mother, Siblings or discarding the items to Nobody.

There are two forms of the FRT, one for pre-schoolers and one for school-age children. The form for younger children contains 40 items, the form for older children contains 86. The present study, as well as all published studies to date, involves the form for older children.

The scoring of the test consists of tallying the number of mentions the child makes of each family member including Self and "Mr. Nobody." The total number of mentions assigned to each individual is used to estimate the degree of involvement which the child experiences with each particular family member. This score is in the present study referred to as The Total Involvement Score. The completed record form also reveals a pattern of distribution in terms of the child's positive and negative feelings. In addition there are items dealing with perceived protectiveness and over indulgence.

The Issues Under Investigation

Research on the ERT until the present time has concentrated in the main on establishing significant differences in test responses of clinical groups, such as delinquent children (Frost & Frost, 1964), disturbed boys (Kauffman, 1971) and retarded readers (Kauffman, Weaver, & Weaver, 1972). Investigation of footnotes accompanying research and this writer's personal knowledge about the application of the test, suggest that the FRT is used primarily as a tool in the establishment of clinical diagnosis. The instrument has not been generally used to gain information about relationships within the average non-clinical family. In fact, the FRT test manual does not even contain normative data. At the time of publication of the test an effort to establish norms was abandoned because "the test has to do with intensive and intimate feelings and the parents of many children might have objected to such an invasion into their private lives" (Bene & Anthony, 1957). However, lack of proper norms against which individual clinical responses can be evaluated makes a valid and reliable interpretation of the FRT extremely difficult. Without the reference to norms the clinician is free to speculate and interpret, perhaps beyond the scope of the test. This weakness in the presentation of the test was recognized by Frost (1969) who provided "a first attempt" at norms by administering the FRT to 190 grade 6 children. Before a furthur extensive norming procedure can be undertaken, however, there are some specific issues pertaining to the administration of the test and selection of sample subjects which need to be explored.

One issue which has been discussed (Kauffman & Ball, 1973; Bene, 1973) though not yet investigated, is the so called "linkage response" (Bene & Anthony, 1957). A linkage response is the response where the child assigns a message to more than one person in the family because he feels this distribution is appropriate. Such multiple assignments or linkage responses provide clinically useful information and also make sure that the child is not pressured into forced choices which may distort his true perception of family relationships. Kauffman and Ball (1973) have pointed out that linkage responses make it, if not impossible, so probably inappropriate to use most statistical tests. Each child could conceivably end up with a different number of total mentions of family members, making such tests as Chi-square or analysis of variance unreliable as it would be impossible to establish mutually exclusive categories. It appears that clinical and statistical interests cannot both be satisfied at once, unless a modification in the administration of the test is allowed. Before such an adaptation is suggested, however, it would be of value to investigate the prevalence of the linkage response.

A second issue which concerns the eventual norming procedures of the FRT regards the nature of the sample. Previous studies indicate that age may influence test responses (Linton, Berle, Grossi, & Jackson, 1961; Kauffman, Weaver, & Weaver, 1971; Frost, 1969; Frost & Lockwood, 1972). Older children, ca. 11 and up, tend to discard more items, thereby denying family relationships which younger children more readily report. These studies also suggest that boys and girls may exhibit different profiles, boys discarding more positive items. Since the test involves distributing items across the family, such factors as family size and birth order may also influence the distribution. In order to evaluate the significance of these variables an effort will have to be made to design an investigation which controls for some of these variables while examining others.

The Purpose of This Study

This study was designed around only, first born, second born, and youngest children who, according to their teacher, counsellor and principal, appeared to be happy and adjusted. In order to minimize the effect of age upon the responses, the sample was restricted to grade 3 and 4 children, including children in the 8-10 year age group. The purpose of the study was to investigate the frequency of the linkage response and to establish its possible dependence on position of birth or sex. The study was also designed to provide birth order profiles of responses to the FRT, again taking into consideration possible sex differences. More specifically, the study addressed the following points:

1. The frequency of the linkage response.
2. Possible differences in frequency of linkage response due to sex.
3. Possible differences in frequency of linkage response due to birth order position.
4. Distribution of Total Involvement Scores over variables as compared to the hypothetical model presented in the manual, which suggests Mother receives most mentions, then Father, followed by Siblings and Self (Bene & Anthony, 1957).

5. Analysis of the effect of sex and birth order on the distribution of mentions assigned to Nobody, Self, Father, Mother, and Siblings, using Total Involvement Scores, Positive Involvement Scores and Negative Involvement Scores.

Limitations of the Study

The primary limitation of the study concerns the number of subjects involved. The initial aim was to have 20 only, 20 first born, 20 second born, and 20 youngest children. It proved impossible to find more than 8 only girls from intact families in the appropriate age group, even after having visited five schools. Because attempts were made to control for many other factors such as family size and socioeconomic background, possible subjects in other birth order categories often did not meet the requirements. The final group consists of 88 children, divided into 4 groups with 22 children in each. No subgroup of girls or boys had less than 8 members.

The present study of the FRT involves consideration of the 68 first items on the test and excludes analysis of feelings of perceived overprotection and overindulgence. This approach has been followed by other investigators (Kauffman, Hallahan, & Ball, 1975; Frost, 1969) and is deemed permissible due to the particular design of the FRT.

This study makes no attempt at extensive analysis of sibling relationships. The reason for this is that the distribution of siblings in terms of sex and age could not be controlled for in an extensive way. Also, although subjects have no more than 3 siblings, many had less or none.

Definitions

For the purposes of this study the following definitions were adopted:

Linkage response - any response which assigns a test item to more than one person.

Positive Involvement Score - sum of positive mentions assigned to Nobody, Self, Father, Mother, and Siblings.

Negative Involvement Score - sum of negative mentions assigned to Nobody, Self, Father, Mother, and Siblings.

Total Involvement Score - sum of positive and negative mentions assigned to Nobody, Self, Father, Mother, and Siblings.

Only child - only child in family with no other siblings.

First born - first born child in family with no more than 3 younger siblings. Age difference between subject and sibling closest in age to be no more than 4 years.

Second born - second born child in family with no more than 3 other siblings. Age difference between subject and sibling closest in age to be no more than 4 years.

Youngest - the last child born into the family with at least two, but no more than 3 older siblings. Age difference between subject and sibling closest in age to be no more than 4 years.

Outline of Thesis

In order to further examine the issues involved in this investigation, Chapter II, the inquiry into related literature, will address itself to the following areas of previous research:

1. Administrative issues of the FRT, including the linkage

response.

2. The Total Involvement Scores on the FRT as a means of assessing family relationships in the healthy family.

3. Parent-Child research, findings and variables.

Chapter III reports on the sample and the administrative procedures used in the study. Sixteen null hypotheses pertaining to the aims of the study are stated and various issues related to the treatment of the data are discussed.

In Chapter IV the results are outlined. The frequency of the linkage response is analysed in terms of sex and birth order. Bene and Anthony's (1957) hypothetical model of distribution is compared to that produced by the present sample. The means obtained by Nobody, Self, Father, Mother, and Siblings are reported and analysed in terms of sex and birth order.

In Chapter V general conclusions are drawn. The validity of the only child's results is discussed. Some comparisons are drawn between Frost's (1969) study and the present study. Birth order profiles, summarizing each group's typical response to the FRT, are provided. An outline of a suggestion for coping with the linkage response issue is provided, and finally some suggestions for direction of future FRT research are stated.

CHAPTER II

REVIEW OF RELATED LITERATURE

There were only about a dozen published studies on the FRT available. However, footnotes in these reports indicate that some investigations have been carried out which are as yet not published (Frankel, 1964a, 1964b; Kauffman, 1968). There were also references to articles published in unavailable foreign journals (Rembowski, 1971) and in domestic journals which were unavailable to the author (Roche, 1970; Lockwood & Frost, 1973). Investigations on the FRT supplying background information for this study were limited, as previous work has focused in the main on issues of validity, reliability and test patterns of different clinical groups rather than on test patterns of the average non-clinical child.

After having identified the relevant administrative issues pertaining to the FRT and this study, it is the purpose of this chapter to examine what trends have in the past been identified in the normal child's FRT response, how these findings relate to general literature on parent/child research, and how sex and birth order of the child are reported to influence the child's perception of family relationships.

Administrative Issues of the FRT

As mentioned in the introduction, Kauffman and Ball (1973) suggested that in order to make statistical tests more reliable multiple assignments of messages should be disallowed. Bene (1973) rejected this suggestion for two reasons. She felt that by requesting the child to decide whether such items as: "I like to be kissed by this person in the family" should be assigned either to Father or Mother, the child may be forced to give a distorted picture of his feelings. Bene also argued that the forced choice method might distort clinical information. When looking at the FRT score sheet one notices not only the items the child uses for members of his family but also those he does not use. If, for instance, a parent receives few positive items one concludes that the child does not have strong positive feelings for the parent. If, however, the child could use each item for one person only, and should assign most positive items to Mother, one would not know whether the child does not like his father or whether he likes him well enough, though not quite as much as his mother. For this reason Bene (1973) argued that forcing children to use each item for one person only would make the FRT a less powerful clinical instrument. It would also make a poorer research tool, as the basic data would be distorted. Bene outlined some statistical procedures which could be used. Neither Bene nor Kauffman, however, discussed the frequency of the linkage response.

Anthony and Bene (1957) provided little discussion for the rationale of selection and classification of specific test items. Kauffman (1970) suggested that although most of the items appear to be reasonably representative of feelings which might be assumed to occur among family members, it is quite possible that the vocabulary of some items could be misunderstood by some children. Kauffman (1968) has also noted that in some cases the assignment of a certain response to a particular family figure results in a relationship which may be nonsensical, e.g. "This person in the family always wants to be with me" assigned to the Self figure. In addition it has been observed (Kauffman 1971; Kauffman, Weaver, & Weaver, 1972) that there are many test items which are infrequently assigned to family figures, making it impossible to use statistical tests based on frequencies. Kauffman and Ball (1973) suggested that item misinterpretation, misplacement and redundancy might be avoided in a revision of the FRT designed to make the items more representative of psychological interactions in the family.

Bene (1973) responded to such criticism by referring to the results of a study involving 40 clinic children. She found that 62% of the items were assigned to parents by 25 to 75% of the children. She suggested that although strong hostile feelings were often not assigned to parents, it would be clinically significant if they were and such items should therefore not be removed. Bene (1973) found the test sufficiently meaningful not to need revision. She was supported in this view by Roche (1970) who increased the choice range for the child by providing variations in administration procedures. It was concluded, however, that the standard techniques possessed greater utility. On the other hand Houston (1970) reported on an adaptation of the FRT which achieved reliability and validity coefficients higher than those reported in the FRT manual. Houston reduced the 86 items to 40 in a study of familial correlates of sex development in boys. The author did not, however, explain why the adaptations were felt to be necessary. It appears that arguments for retention of the original version and revision of the FRT have been forthcoming though not yet resolved.

Total Family Involvement Scores on the FRT

Most studies involving children's perceptions of parental attitudes measure the affective, punitive or controlling aspects of involvement (Goldin, 1969; Walters & Stinnet, 1971), rather than the amount of total involvement. Heilbrun (1965) believed that the subject's assessment of his absolute level of involvement with each parent was unlikely to be reliable. Disagreeing, Livson (1966) designed an absolute measure of the child's emotional ties with his parents rather than studying the difference between the child's perceived closeness to his mother and father. He found only a very few children in a group of 50 normal boys who failed to develop a strong involvement with both parents.

"Arguing from purely theoretical considerations" Bene and Anthony (1957) suggested that the child perceives family members in the following order of psychological importance: mother, father, siblings, others in the family, and self. No attempt was made, however, to outline the theoretical basis upon which this hypothetical distribution was based. The only normative study comprehensive enough to test the hypothesis was done by Frost (1969). The study involved 190 grade 6 children, 186 boys and 104 girls. The sample was chosen to give a cross-section of socio-economic background, but size of family was not controlled for. Frost confirmed Bene and Anthony's assumptions by excluding consideration of the Nobody figure. In fact, Mr. Nobody achieved most mentions, followed by Mother then Father. In other words, proportionatly more cards were discarded than assigned to any family member. Although Frost found that Mother received most mentions, the difference in the number of mentions between parents was not statistically significant. Frost's findings therefore confirmed those of Livson (1966) that children do not differentiate much between parents in terms of total involvement. Siblings were rated next to the parents in order of importance, the Self figure was not mentioned in Frost's study. Frost also observed that siblings were given more negative than positive mentions, whereas the opposite was true for parents.

In contrast, a group of delinquent children to which Frost (1969) compared his normative data, assigned less positive items to Father and more positive items to Mother. The delinquent children also assigned more negative items to Nobody, thereby denying negative feelings which non-clinic children readily admitted were present in their families. A non-reader group, on the other hand, dispersed its positive statements throughout the family, thereby "diluting" family ties (Frost 1969).

Kauffman (1971) reported that in a study of 57 disturbed and normal boys, age 9 - 12, significant differences were obtained. The disturbed children tended to report more positive perceptions of family relationships, denying negative feelings by discarding them into Mr. Nobody. The institutionalized children tended to perceive the Self figure more negatively than the normal children. Normal children, in contrast to institutionalized children, would perceive their relationships with their oldest siblings as significantly more negative than their relationship with their parents.

Kauffman, Weaver, and Weaver (1972) reported that configuration of emotions of retarded readers were quite similar to those of normal children. Most responses were generally assigned to Nobody, and in the family constellation the parents tended to be the focus of positive feelings, while siblings tended to be the recipients of most negative feelings. Feelings related to Self were relatively infrequently reported and tended to be more negative than positive.

Rembowski (1971) found that mother and grandmother rather than father and grandfather were primary sources of attitudes and feelings in the normal child.

Lockwood and Frost (1973) found that in a sample of 197, 11 year old males referred for school problems, a sibling was the most mentioned family member. Subjects gave significantly less mentions of Mother than in the Frost (1969) norm sample.

Kauffman, Hallahan, and Ball (1975) using a sample of 30 normal children and their parents found that parents tended to overestimate their own centrality in the family perceptions of their children, particularly perceptions involving negative feelings. Parents also did not seem to be aware of the extent of siblings' mutual negative feelings.

In the few studies available there seemed to be some agreement that the FRT distinguishes successfully between various diagnostic groups, particularly between normal, disturbed and delinquent children. Frost's (1969) study on non-readers, Kauffman, Weaver, and Weaver's (1972) work on retarded readers, and Lockwood and Frost's (1973) study on children with school problems disagree somewhat in their results, indicating more variation in the family relationship of these children. The discrepancy of the results could also be due to differences in classification of the children.

Research generally appeared to partially confirm Bene & Anthony's original hypothesis of the psychological importance of family members and also suggested that parents are more favourably viewed than siblings. The Nobody figure received most mentions, the Self figure received least. Mother received slightly more mentions than Father.

Parent-Child Research

Objective Report versus Phenomenology

Two major streams of research seemed evident in general parent-child research. One stream related objectively described parental behaviors and attitudes to child response and the other stream investigated children's perception of parents from a phenomenological point of view. Most of the empirical literature was focused on the former and a number of research programs and reviews testify to the significant influence of parental factors on child behavior (Sears, Macoby, & Levin, 1957; Frankiel, 1959; Becker & Krug, 1965; Walters & Stinnet, 1971). These studies certainly indicate that some significant portion of the variance of children's behavior is related to observer reported parental management and child rearing practices.

Anthony and Bene, however, having in their clinical practice noticed a discrepancy between the feelings the child attributes to various members of his family and the feelings the members of his family actually had, concluded that for clinical purposes "it is the child's idiosyncratic concept of his emotional environment that has operational value" (Anthony & Bene, 1957). Anthony and Bene assumed that the child's "psychic reality" was more likely to be related to the aetiology of his symptoms than was the "objective reality" assessed through careful social enquiry. Research generally supports this hypothesis (Ausubel, et al., 1954; Burchinal, 1958; Serot & Teevan, 1961; Houston, 1970). Serot and Teevan (1961) for example, hypothesized and confirmed that a child's perception of his parent-child relationship was correlated to his adjustment. It was found that the well adjusted child perceived his parent-child relationship as relatively happy and close to the theoretical ideal, whereas the maladjusted child's perception of his family relationship was far from ideal. It was also found that there was little agreement between parental perception of the parent-child relationship and the child's perception of same. Serot and Teevan therefore concluded that parental perception of the parent-child relationship did not correlate with the offspring's adjustment and this was statistically confirmed. Anthony and Bene's phenomenological approach to the study of parent-child relationships therefore appears to have a basis in research.

Goldin (1969) and Walters and Stinnet (1971) have produced the most comprehensive recent reviews of child-parent research. Goldin observed that research generally has been confined to four basic categories: affection, dominance, punishment, and ambivalence. Because examiners rarely asked questions about the child's perception of the parent's consistency, delay of reward, differential punishment of disobedience versus reward for conformity, etc., the narrow choice of dimensions of parent-child interactional variables may have resulted in excessive uniformity among the data (Goldin, 1969).

Parental Differentiation, Variation Due to Sex and Stages of Development

General research into the child's perceived relationship with his parents showed that the child perceives both parents favourably, but regards mothers as more loving and fathers as more punitive, with the indication that either parent may be perceived as controlling (Harris & Tseng, 1957; Hawkes, Burchinal, & Gardner, 1957; Kagan, et al., 1961; Droppleman & Schaefer, 1963; Stinnet, Farris, & Walters, 1974).

Research has also shown differences in perception in terms of sex, boys generally perceiving parents as less accepting and loving, more psychologically controlling and demanding, and more punitive than do girls (Stinnet, Farris, & Walters, 1974). Block (1937) in contrast, found a tendency for boys to report mothers as less restrictive. However, she concluded that the most noticable sex difference was not the amount of control, but that the content of control differed with girls reporting more control in relation to social activities and boys with respect to habit routines.

The perception of control and punishment as vested in the father relative to the mother is differentiated during development. Young preschoolers as compared to older preschoolers and school age children showed more stereotyping in view of relative power, with father reported as more powerful and dominant and mothers as facilitative (Emmerich, 1961). During middle childhood there were suggestions that the same-sex parent was seen as increasingly dominant and punitive (Kagan, 1956). Burger, Lamp, and Rogers (1975), who administered the Child's Report of Parental Behavior Inventory to 342 children in grades 1 through 4, found that children perceived a decrease in psychologically controlling behavior and a concomitant increase in parental rule making and limit setting. During adolescence children began to report both mother and father as boss (Hess & Torney, 1962). Sex by age effects introduced confusion into the picture of perceived family relationships, some studies reporting that girls increase in negative attitudes during adolescence, particularly to mothers, while boys decrease in negative attitudes during this time; other studies have found the reverse to be true (Goldin, 1969).

Socio-economic Status and Family Relations

There was also some indication that socio-economic status influences perception of family life. The studies generally indicated that middle class parents tended to be both more supportive and controlling of their children, and that they were more likely to discipline their children by utilizing reason and appeals to guilt and less likely to use physical punishment than were lower class parents (Walters & Stinnet, 1971).

Grecas and Nye (1974) examined differences in the style and circumstances of parental discipline in two socio-economic groups. They hypothesized that white collar parents stressed the development of internal standards of conduct in their children and therefore were more likely to discipline on the basis of their interpretation of the child's behavior, while blue collar parents were more likely to react on the basis of the consequences of the child's behavior. The sample included 210 couples who were the parents of 3rd graders. A greater difference was found in the responses of white collar parents toward their child when he "accidentally breaks something" versus when he "intentionally disobeys" than was found for blue collar parents, thereby confirming the hypothesis.

Goldin (1969) found that children of lower class socio-economic status perceived parents as less accepting and possibly more psychologically controlling. Rosen (1964) found that middle class boys perceived parents as more accepting and interested in them than did lower class boys.

Birth-Order and Family Relations

Another, and to many researchers, crucial variable in the study of family relations as well as personality generally, is the birth order of the child. A vast amount of attention has been given to the study of the relationship between ordinal position of children in the family and resulting personality and ability characteristics. Vockel, Felker, and Miley (1973) lists 252 articles which appeared on the topic in Psychological Abstracts between 1967-1971. Miley (1969) lists 162 articles which appeared between 1963 and 1967. But in fact studies and observations on ordinal position go back 3/4 of a century to G. Stanley Hall who at the turn of the century observed that to be an only child was a disease in itself (Stroup & Hunter, 1965).

Freud (1938) discussed the effects of birth order when describing sibling rivalry: "There is probably no nursery," he said, "without violent conflicts between the inhabitants." The first child "forced into second place by the birth of another," may handle his natural anger by tactics ranging from "profound embitterment to adopting the younger sibling as a new love object to replace the disappointing parent." Rank stressed the advantages of the youngest child: "It must always be the youngest who appears as the hero.... This superiority really consists in the fact that in having access to the mother he is like the father, with whom he alone is able to identify himself" (McArthur, 1956). On the other hand, Adler (1927) emphasized the advantages of the first born. He saw the oldest and next oldest children fighting for power, the older using his advantageous position as a defense, the younger goaded by his inferior status to all the more fury of attack. "The situation has . . . been described in a very lively fashion in the Biblical legend of Esau and Jacob," Adler (1927) reported:

> The oldest child is usually the one whom one accredits with enough power and common sense to be the foreman of his parents .... It is not surprising that such individuals are markedly conservative. The attitude of the second born is similar to the envy of the poor classes. There is a dominant note of being slighted, neglected in it.

The only child has, perhaps, fared worse than children of other groups, especially in early 20th century literature. Bohannon (Guilford & Worcester, 1930) concluded his study of 381 only children by stating that only children were apt to be less intelligent, less healthy, more dependent and selfish and more likely to indulge in "imaginary companionship." More recent research has, however, tended to vindicate the only child (Almodovar, 1973; Falbo, 1976). Falbo points out that considerable social stigma is attached to being or having an only child, and that this kind of discrimination may contribute to people's expectation that only children must be "selfish, lonely and maladjusted." Falbo, in fact, found that only children did not report to be lonely, they cooperated without selfishness and appeared well adjusted.

The solution to such contradictory results in research may lie in one's point of initial focus. Adler stresses, therefore, that birth order per se may not be as significant as how the child perceives his world from his particular position (Greene & Clark, 1970). Order of birth, according to Adler, does not of itself determine the child's personality; the child's perception of his particular position and how he decides to cope with it may, however, do so (Corsini, 1973). In focusing on the child's perception rather than on parental or other second hand reports, Adler and Bene and Anthony agree on a methodological approach to the study of family relations.

If one asks three broad questions to the area of birth order research - "Does ordinal position make any difference?" "If so, what are these differences?" "Why do we find these differences?" Sampson (1965) noted that for the most part earlier work was directed toward answering the first two questions, leaving the third to "armchair speculation and post-hoc interpretation of oftentimes insignificant findings." There are, however, even now very few studies dealing with the issues raised by the third question and even these focus specifically on the relationship between parental behavior and developmental personality trends in the child, rather than on perceived family relations per se. In addition, most studies are designed either around parental report or children's report as adults on what they perceived to be the family relationships in their families when they were young (Stinnet, Farris, & Walters, 1974). Studies have shown that data obtained in this fashion might be highly unreliable (Robbins, 1963; Cox, 1975).

Sampson (1965), reviewing 153 articles related to birth order research, adopted the Adlerian position and argued that order of birth, in and of itself is not useful in understanding or explaining the development of personality and behavior. He suggests that ordinal position creates a particular kind of sociological environment and a set of psychological experiences that are assumed to lead to the development of patterns of personality and behavior.

The major features of family structure which have been hypothesized to account for the effects of ordinal position have their foci in family size, role relationships, and the structure of authority or discipline (Sampson, 1965). In terms of theory, a Durkheimian model of the division of labour (Durkheim, 1947) has been utilized to understand the effects of increasing family size (Bossard & Ball, 1955). According to this approach, as the family size increases, there is an increased division of labour or role differentiation based on factors such as age, sex, and ordinal position. Furthermore, as compared with the small family, the large family is characterized by a lesser degree of emotional intensity, a greater emphasis on organization, a greater concentration of leadership and a greater emphasis on cooperation and conformity.

Most descriptions of ordinal position behavior focused on the oldest child, indicating how other children differ from his behavior. Some studies have presented up to 20 ordinal types (Krout, 1939) but the trend was to isolate quite general differences in parental treatment of the first born and later born, and on the basis of these findings to explain differences in ordinal behavior.

One of the most often referred to studies was that of Schachter (1959). He suggested that the parents lavish love and affection on the first born child, but because of their own inexperience and insecurity in handling their first born, they frustrate his dependency needs. In addition, Schachter suggested that the parents act more inconsistently toward the first born child. Out of this matrix of parental behaviors and anxieties, presumably there develops a greater dependency need in the first born or only child. The expression of this high level of dependency is seen to lie in affiliative behavior on the part of the first or only child, particularly under conditions which heighten his level of anxiety.

Along somewhat similar lines Koch (1956), Phillips (1956) and Sears (1950) have pointed to parental inexperience in handling the first, with the consequent frustration of his needs and demands; this in turn is seen to produce greater dependency in the first born child. Hilton (1967), in a rare experimental study which included controlled observation of mothers with first and second born children, observed that the first born and only children were significantly more dependent than later born children. They would often run to their mothers for help on puzzle tasks. According to Hilton, mothers trained their first born children to be dependent, conforming and sensitive by interfering, helping and making expression of warmth dependent on success. Koch (1956) suggested that not only do parents tend to be more careful in their treatment of the first born, but their parental style may produce caution and fear in the child. Similarily McArthur (1956) pointed to the greater permissiveness and therefore less cautions and frustrating outcomes for the second child.

Turning from parental caution and inexperience, others have pointed to the factor of parental distance and deprivation of affection as an important determinant of ordinal position effects. Conners (1963) for example, suggested that there is a continuum of increasing deprivation of affection from the only child to the first and hence to the second born. Similar processes have been discussed by McArthur (1956), by Schooler (1961) and by Rosen (1961). They suggested, in sharp contrast to Rank (McArthur, 1957), that the first born rather than the youngest has the greater access to the parents. For this reason the oldest is more sensitive to his parents feelings and beliefs; he is more adult oriented, serious and sensitive as compared with the easy-going, friendly and independent later born.

There are still other suggestions about specific parental behaviors which can be seen to produce differential patterns of personality and behavior in children of different order of birth. Rosen (1961) and Phillips (1956) suggested that because parents have no point of comparison on which to base their own expectations, they tend to overestimate the ability of the first born. The specific behaviors of the parents in spoiling the first, showing overall preference for the first, paying more attention to the first (Koch, 1955), talking and interacting more with the first (Bossard & Ball, 1955; Rosen, 1961) have also been suggested to account for differences found or expected.

Several authors have pointed to the kind of role expectations and role training given to the child. Perhaps the predominant reference in this context pertains to the pressure placed on the first child to achieve and be responsible (McArthur, 1956; Altus, 1967). Not only is the first trained in achievement and responsibility (Bradley, 1968), but also he is given and seems to prefer a parent surrogate role (Sutton-Smith, et al, 1964), is pressured to achieve social status (Davis, 1959), and is subjected to pressures to be an adult earlier (Rosen, 1961). The first born is seen to hold the future expectations of the parents, perhaps even the yet unachieved occupational aspirations of the father (McArthur, 1956).

Studies on birth order do, however, frequently yield inconsistent results. Lasko (1954), contrary to other authors, found that parents were not less anxious or protective toward the second child; in fact the babying score was higher for the second child. Neither was the hypothesis supported that parents interfered less with the second child. In examining her data further, Lasko suggested that age spacing is of importance as a determinant of parental behavior. In addition, her results indicated that the differential parental "warmth" toward the first as compared with second children was more apparent in preschool years than later. In fact, she suggested that whereas initially the first child's environment is extremely warm and child centered, he loses ground rapidly during the preschool years, being overtaken by the second child who starts lower, but keeps at a constant rate.

Sampson (1956) concluded that the absolute level of warmth and attention given to the first born who was not an only child was less significant than was the rapid decline in his central egoistic position. He begins on top, but rapidly moves downward as compared with his sib. Contradicting the Adlerian hypothesis, Sampson suggested that it may be the first born not the second born who spends the remainder of his life trying to catch up, in the sense of trying to re-establish his lost favored position in the center of the family group, or in the center of any similar group. The only child's experience would be quite different from that of the first born and one would therefore expect different outcomes for the only child. Unfortunately, however, in research only children are most often lumped with first borns either because there are few of them or because differences in some areas have been found to be minimal (Almodovar 1973). Sampson (1965) was highly critical of this approach, since it violates the very basis of birth order research: the assumption that order of birth is a crucial factor.

Added to the picture of differential parental treatment as a function of ordinal position are studies suggesting differential treatment as a function both of ordinal position and sex. Sears, Maccoby, & Levin (1957) found that the parents' attitude toward a new birth was a function of the existing family configuration. If the parents presently had a girl, they expressed a more positive attitude toward the new male child than if they already had a boy and another male child was born. Lasko (1954) on the other hand, found that spacing rather than the sex ratio was more determinant of parental behavior.

Another variable considered to be a determinant of ordinal position effects is sibling relationships. The sibling is seen as a model, an antagonist, a rival for love and affection and a pacesetter (Sampson, 1965). Dittes and Capra (1962) suggested that the first born may be hesitant to express his antagonism towards parents because they are distant and powerful. The second born, on the other hand, can compete with his more equal and vulnerable sibling, and is therefore less hesitant to express aggression.

The issues pertaining to birth order effects are far from resolved. Toman (1971) asserted that "birth order rules all." He claimed on the basis of information about the sexes and ages of all the people in a person's immediate family, to be able to describe the person's major personality characteristics and perceptions. On the other hand, Green and Clark (1970) found no support in their research for some of Adler's more important theories of birth order. Both Altus

(1967) and Sampson (1965) concluded their very extensive birth order reviews on the note that differential effects due to order of birth are generally accepted though not perhaps as consistent and specific as one might wish. It appears that the researchers have embraced Adler's notion of the importance of birth order, but perhaps excluded consideration of the crucial intermediary aspect represented by the child's perception.

CHAPTER III

METHODOLOGY

Sample and Administrative Procedures

Because previous studies involving the variables of birth order and sex often have yielded unclear results due to lack of control over intervening variables (Sampson, 1965), effort was made in this study to hold such variables constant. Subjects had to meet the following criteria:

1. Subjects had to fit into one of the birth order categories described under Definitions, p.

2. To avoid the tendency of test-inhibition, ie. older children discarding more items, subjects were restricted in age. Grade 3 and 4 children aged 8-10 were included.

3. Subjects had to come from an intact family situation, which meant exclusion of children from divorced families. Children from families with foster children, adopted children, handicapped children or dead siblings were also excluded.

4. No subject was to have more than 3 siblings.

5. Subjects had to be deemed happy and adjusted by teacher, counsellor and/or principal.

6. Socio-economic background was controlled for by careful selection of inter-city and suburban schools. Five Edmonton public schools participated in the study.

It proved difficult to find the desired number of only children, particularly girls. Therefore, the procedure was to identify the qualifying grade 3 and 4 only children in each school first and then, by help of cumulative records and information provided by teachers or counsellors, to match the only child with children from the three other positions of birth. The final sample consisted of 88 children, with 22 children in each of the 4 birth order groups. The birth order groups had the following sex distribution:

only children: 8 girls, 14 boys
first born children: 11 girls, 11 boys
second born children: 12 girls, 10 boys
youngest children: 11 girls, 11 boys

No child had more than 3 siblings; the mode for all groups, excluding only children, was 2 siblings.

All 88 children participated willingly and completed the required testing. The children were tested individually by the author during the months of November, December, 1975 and January, 1976. Tests were administered in the counselling offices during normal school hours. The sessions averaged 25 minutes and followed exact testing procedures as outlined in the FRT manual, except that children were not allowed to include people from outside the immediate family circle, such as a grandmother or a friend (Anthony & Bene, 1957).

Upon completion of the testing the children assisted in the simple tallying of responses. At this time the children were encouraged to ask any questions they might have or elaborate upon their answers. The examiner was struck by the fact that the majority of children enjoyed the test questions and were not embarassed or hesitant in their responses.

Hypotheses

Appropriate null hypotheses were developed to test several of the stated aims of this study. These hypotheses were:

1. There is no significant difference between sex or birth order groups in the frequency with which they present linkage responses.

2. There is no significant difference between sex or birth order groups in the means of the total number of items discarded into Nobody.

3. There is no significant difference between sex or birth order groups in the means of positive items discarded into Nobody.

4. There is no significant difference between sex or birth order groups in the means of negative items discarded into Nobody.

5. There is no significant difference between sex or birth order groups in the means of the total number of mentions made of Self.

6. There is no significant difference between sex or birth order groups in the means of positive mentions made of Self.

7. There is no significant difference between sex or birth order groups in the means of negative mentions made of Self.

8. There is no significant difference between sex or birth order groups in the means of total mentions made of Father.

9. There is no significant difference between sex or birth order groups in the means of positive mentions made of Father.

10. There is no significant difference between sex or birth order groups in the means of negative mentions made of Father.

11. There is no significant difference between sex or birth order groups in the means of total mentions made of Mother.

12. There is no significant difference between sex or birth order groups in the means of positive mentions made of Mother.

13. There is no significant difference between sex or birth order groups in the means of negative mentions made of Mother.

14. There is no significant difference between sex or birth order groups in the means of total mentions made of Siblings.

15. There is no significant difference between sex or birth order groups in the means of positive mentions made of Siblings.

16. There is no significant difference between sex or birth order groups in the means of negative mentions made of Siblings.

A level of significance of .05 was designated as being necessary to reject the null hypothesis.

Treatment of Data

The first null hypothesis was treated with a Chi-square test of independent proportions and a Chi-square test of independence with 4 groups. The remaining 15 hypotheses were treated by two-way analysis of variance, the two dependent variables being sex and order of birth. The analysis of variance between independent groups was used by Frost (1969) in his normative study, and therefore allows for some comparisons of results later.

It was found that 7 of the tested hypotheses did not obtain homogeneity of variance at the .05 level. Some variables, particularly the Self figure, appeared to produce a greater variety of responses within groups than others. These discrepancies were not considered to seriously affect the results as the F distribution is relatively robust with respect to violation of the assumption of homogeneity of population-error variances (Hays, 1963; Kirk, 1968). However, because the sample groups were relatively small and contained an unequal number of subjects, it was decided to use the Geisser and Greenhouse (Kirk, 1968) conservative F test to correct possible inaccuracies produced by the conventional F test. The reported differences between groups are therefore likely to be reliable.

It is somewhat more difficult to assess whether permitting the linkage response will contribute to distortion of test results. One effect of the linkage response is that each child produces a slightly different total number of mentions, depending on how often the child feels a response fits more than one person. One might, perhaps, assume that as family size increases the number of linkage responses must increase since there would be more likelihood of responses matching at least two of an increasing number of people. This was found, however, not to be the case. The only child, in fact, produced an equal number of total mentions to the first born, even though the first born had 2 or 3 siblings. Because the difference between total mentions between groups was not large it was considered reasonable to compare the groups using the computed means.

Another problem arises because the only child has less categories to choose from than other birth order groups with siblings. He may produce more mentions of the variables available to him simply because he has to "crowd" his items in somehow. The result would be that the only child produces significant differences from other groups out of "statistical necessity" rather than because of experimental differences. On the other hand, one can also assume that the only child is just as free as children from other groups to select his categories. The question arises whether he chooses to discard more items, or whether he finds more items appropriate for himself or either of his parents than do other groups. It is, therefore, still of interest to examine where and what the differences are. Once a pattern has been established, one will be in a better position to discuss the value of the observed differences.

When scoring the tests, each mention of Nobody, Self, Father, and Mother was assigned one point, and each of these variables was treated as a separate unit. Because sibling factors could not be controlled for in terms of sex, age, and birth order of siblings, sibling data was pooled and treated as units, one unit for each birth order group, excluding only children. The data will, therefore, illustrate how involvement with Father or Mother compares with total sibling involvement; not, for example, how involvement with Father or Mother compares with the relationship between the subject and an older sister or younger brother.

CHAPTER IV

RESULTS

The Frequency of the Linkage Response

Out of 88 children, 56 children produced linkage responses, 32 did not. The frequency of the linkage response was therefore 64%. It would appear that the tendency to spontaneously produce a linkage response represents the rule rather than the exception.

A linkage response was more likely to be forthcoming if the item was positive than if it was negative. The following 10 items produced linkage responses among 29.5 - 45.5% of the children:

1. This person in the family likes me very much.
2. This person in the family is kind to me.
3. This person in the family is very nice to me.
4. This person in the family is very nice.
5. This person in the family deserves a nice present.
6. This person in the family pays attention to me.
7. This person in the family has the nicest ways.
8. This person in the family is very kind hearted.
9. This person in the family likes to help me.
10. This person in the family listens to what I have to say.

By contrast, the following negative items were never or only once used in a linkage response by the sample of 88 children:

1. This person in the family sometimes complains too much.
2. Sometimes I would like to kill this person in the family.
3. Sometimes I wish this person in the family would go away.

4. This person in the family hits me a lot.
5. This person in the family punishes me too often.
6. This person in the family makes me feel afraid.
7. This person in the family makes me feel unhappy.
8. This person in the family does not love me enough.

The most common way of combining family members in the linkage response was to assign an item to both parents. This trend was observed for all birth order groups. The following table illustrates the combinations of linkage responses provided by the sample.

Table 1

Linkage Response Combinations of Family Members in % as Provided by Only, First Born, Second Born, and Youngest Children (N = 88, Age: 8-10) on the FRT

Father & Mother	69.2
Father, Mother, & Sibling(s)	16.7
Siblings	8.6
Mother & Sibling(s)	2.1
Father, Mother, Sibling(s), & Self	1.6
Father & Sibling(s)	1.0
Mother & Self	.4
Self & Siblings	.4

Thirty-two children produced no linkage responses. Five children produced 1 linkage response; the most linkage responses produced by any child was 38. The mean number of linkage responses was 9 and the median was 4. Twenty-five children, or 28% of the children, produced between 15 and 30 linkage responses.

Differences in Frequency of Linkage Responses Due to Sex

Table 2

Total Number of Girls (G) and Boys (B)
in Each Birth Order Group, Compared with
the Number of Girls and Boys in Each
Group Producing Linkage Responses

	Only		First		Second		Youngest	
	G	B	G	B	G	B	G	B
Total in Group	8	14	11	11	12	10	11	11
Total Producing Linkage Responses	7	11	8	8	5	5	5	7

Twenty-five out of 42 girls and 31 out of 46 boys produced linkage responses. This meant that 60% of girls and 67% of boys produced linkage responses on the FRT. A Chi-square test of independent proportions showed that this difference was not statistically significant at the .05 level. There was no statistically significant difference between girls and boys in tendency to produce linkage responses on the FRT.

Differences in Frequency of Linkage Responses Due to Birth Order Group

Table 3

Total Number of Children in Each Birth Order Group Producing Linkage Responses, Compared to Number of Children in Each Group Not Producing Linkage Responses

	Only	First	Second	Youngest
Number of Children Producing Linkage	18	16	10	12
Number of Children Not Producing Linkage	4	6	12	10
Total	22	22	22	22

Using a Chi-square test of independence with 4 groups it was found that a significant difference existed between only and second born children in their tendency to produce linkage responses. As can be seen from Table 2 the only child tended to produce most linkage responses, followed by the first born, then the youngest and finally the second born.. The difference between the only and second born was statistically significant at the .02 level. The difference between the only and the youngest, and the oldest and the second born were significant at the .10 level.

Total Involvement Scores as Compared to Hypothetical Model Presented in Manual

It is suggested in the manual (Anthony & Bene, 1957) that a child's expected profile, regardless of sex of child, would show most total involvement with Mother, followed by involvement with Father, Siblings, and finally with Self. No estimation is made of Nobody's place on this scale. Neither does the manual suggest what the expected proportions of these involvement scores should be. For this reason, only a simple ordinal comparison between the hypothetical model and the present sample is possible.

In the following table, Total Involvement Scores were computed for each variable separately in all 4 groups and proportion of involvement in % was then computed within groups. Scores for the only child were consistently higher than for other groups, because the only child could not, of course, contribute to the sibling group, yet he still had 100% to distribute. The actual total figures between groups upon which the 100% for each group was based, did not differ substantially.

Table 4

Distribution of Total Involvement Scores in % for 4 Birth Order Positions

	Nobody	Self	Father	Mother	Siblings
Only	29.2	4.4	33.3	33.1	-
First	22.0	2.8	18.8	16.7	39.7
Second	23.5	2.5	14.3	15.2	44.5
Youngest	20.8	2.5	16.8	19.8	40.1

As can be seen from Table 4 the tendency was for Mother and Father to receive near equal proportions of mentions, rather than for Mother to receive a clear cut majority of mentions. The FRT test results indicated that children, in the 8-10 age group at least, experienced an essentially equal amount of involvement with both parents. There was an indication that the youngest child might perceive slightly more involvement with Mother than with Father. However, basically birth order differences appeared minimal with respect to total parental involvement and indicated that the hypothesis of a concentration of involvement with Mother may not be supported in fact.

Another more pronounced departure from the hypothetical model was the indication that involvement with siblings may supersede involvement with parents. As the majority of children with siblings had 2 siblings, one can get a rough estimate of proportionate involvement with parents and siblings by adding percentage scores for Father and Mother and comparing them to Sibling scores. In every birth order group sibling involvement was larger than parental involvement. The difference was particularly marked for the second born, suggesting that the second born, for some reason, sees himself as least involved with parents. The present test results generally did not support the hypothesis that parental involvement supersedes sibling involvement.

The results did, however, support the hypothesis that the Self figure receives the least total number of mentions as compared to other categories. The Self figure appeared to be very rarely used.

Comparison with number of of mentions assigned to Nobody could not be made as the hypothetical model did not indicate an estimate of expected proportion for this variable. The present results suggested, however, that 20-25% of items on the FRT may be deemed inappropriate and therefore discarded. The indication was that Nobody received more mentions than Father or Mother, but less mentions than Siblings, except in the only child situation, where Father and Mother both may receive more mentions than Nobody.

Another way of comparing the present results with the hypothetical model is to assume non-significant differences between birth order groups and to compare results from the total sample to the model. It was decided to exclude the only child's responses from this particular analysis as the 22 only children represented an unnaturally large proportion of the total sample compared to what one might expect to find in the general population. Figure 1 represents an exact copy of the hypothetical model of proportionate distribution as presented in the FRT manual (Anthony & Bene, 1957). Figure 2 was based on the current sample, excluding only children.

Results from the pooled sample also showed relatively equal amount of involvement with parents. Involvement with siblings superseded that of involvement with parents. The Self figure obtained least mentions. Approximately 1/5 of mentions were discarded as inappropriate.

In conclusion, it must therefore be said that evidence for support of Bene and Anthony's hypothetical distribution of proportionate family involvement was not found in the main. Some differences due to birth order or sex may exist and will be investigated in the following sections. However, generally the ranking of the importance of

FIGURE 1

Hypothetical Model of Distribution of Total Involvement Scores as Presented in FRT Manual (Anthony & Bene, 1957), p. 12

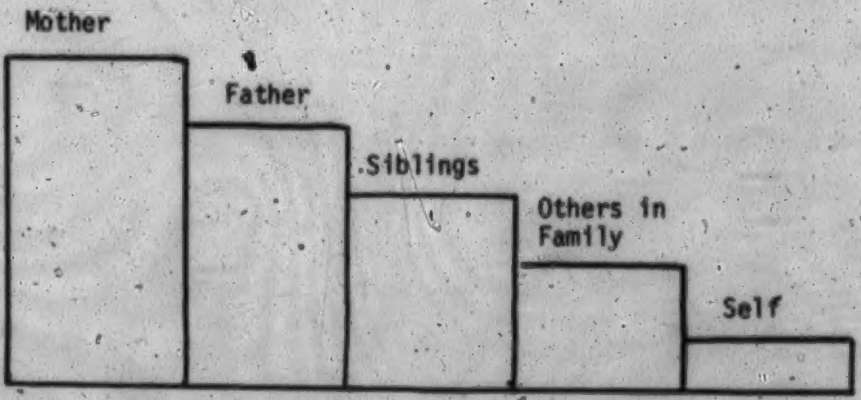
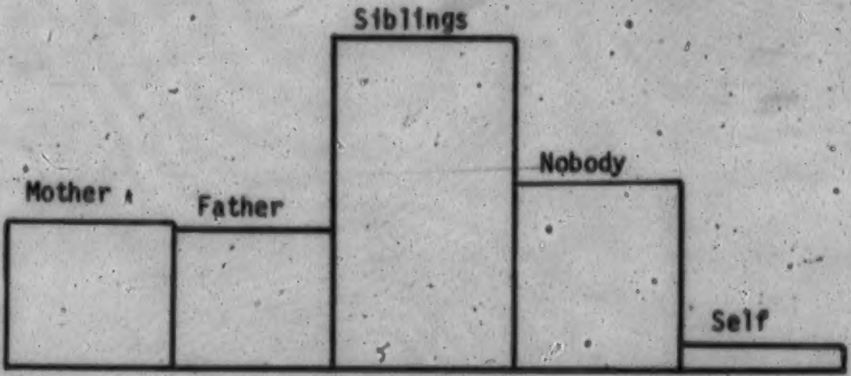


Figure 2

Distribution of Total Involvement Scores in %, Representing the Pooled Results of First Born, Second Born, and Youngest Children



Caution: Scales are approximate. Table 4 and Table 5 cannot be compared with accuracy as the figures upon which the hypothetical model was based was not reported.

variables on the FRT remained constant over all birth order groups and also over a total sample involving first born, second born, and youngest 8-10 year old children. In addition, the only child ranked the importance of the variables in the same way as children of other birth orders. The only child distributed proportionately more items into less categories. However, until further formal analysis is undertaken it is difficult to assess whether there are any statistically significant differences between birth order groups.

Analysis of Variables by Sex and Birth Order

The two-way analysis of variance centered on the Total Involvement Scores and on the Positive and Negative Involvement Scores for the variables: Nobody, Self, Father, Mother, and Siblings. The Total Involvement Scores were derived by adding the total number of positive and negative mentions made by the children relative to each of the above mentioned variables. No statistically significant interaction between sex and birth order was observed. The effects of sex and birth order on the response of children to the FRT are therefore reported separately.

Nobody: Analysis of Total Involvement Scores

Table 5

Means of Items Discarded Into Nobody by Sex and Birth Order

	Only	First	Second	Youngest
Female	25.6	16.0	17.0	14.3
Male	24.6	21.5	17.6	17.5

Sex. Although a trend was evident for boys to discard more items than girls, this difference was not statistically significant.

Birth order. There was a significant difference between the only and the youngest child in the number of total mentions discarded into Nobody, $p < .02$. The only child discarded significantly more mentions than did the youngest child. In fact, the only child discarded more mentions than any other group, though the differences between only and first and only and second were not statistically significant.

Nobody: Analysis of Positive Involvement Scores

Table 6

Means of Positive Items Discarded Into Nobody by Sex and Birth Order

	Only	First	Second	Youngest
Female	3.8	3.1	6.9	4.7
Male	4.4	6.6	7.6	5.6

Sex. Although a trend was evident for boys to discard more positive items than girls this difference was not statistically significant.

Birth order. There was no statistically significant difference between birth order groups in tendency to discard positive items into Nobody. A trend was observed, however, for the first born and particularly the second born, to produce quite erratic responses. Some second born children discarded over 20 positive responses, whereas others discarded only 4 or 5. The response of the second born appears somewhat unpredictable and may involve a larger normal range than that presented by other groups.

Nobody: Analysis of Negative Involvement Scores

Table 7

Means of Negative Items Discarded Into
Nobody by Sex and Birth Order

	Only	First	Second	Youngest
Female	21.9	12.9	10.1	9.5
Male	20.2	14.9	10.0	11.8

Sex. There was no significant difference between girls and boys in tendency to discard negative items.

Birth order. The only child discarded significantly more negative items into Nobody than did any other birth order group. The only child, in fact, discarded nearly twice as many items on the FRT as did children of other birth order groups

Quality of Items Discarded Into Nobody

The majority of items discarded into Nobody was negative. The only child discarded roughly 5 times as many negative as positive items. Other birth order groups discarded approximately twice as many negative as positive items.

Self: Analysis of Total Involvement Scores

Table 8

Means of Total Involvement Scores
Assigned to Self

	Only	First	Second	Youngest
Female	4.0	1.5	2.0	1.5
Male	3.6	3.2	1.6	2.3

Sex. There was no significant difference between sexes in regard to total involvement with Self.

Birth order. Because homogeneity of variance was not obtained, the Geisser and Greenhouse Conservative F Test was applied. The observed F was 3.5, whereas the critical F was 4. The differences between groups were, therefore, on the borderline of significance. It appears that the only child assigns more mentions to Self, though the difference between the only child and other order of birth may not be of substantial significance.

Self: Analysis of Positive Involvement Scores

Table 9

Means of Positive Involvement Scores
Assigned to Self

	Only	First	Second	Youngest
Female	2.0	1.0	1.3	1.1
Male	1.6	2.2	.6	.9

Sex. There was no significant difference in terms of sex in regard to positive involvement with Self.

Birth order. There was no significant difference between birth order groups in tendency to assign positive items to Self.

Self: Analysis of Negative Involvement Scores

Table 10

Means of Negative Involvement Scores Assigned to Self

	Only	First	Second	Youngest
Female	2.0	.4	.8	.4
Male	1.9	1.0	1.0	1.4

Sex. There was no significant difference in terms of sex in regard to negative involvement with Self.

Birth order. No significant differences between birth order groups was found.

Quality of Items Assigned to Self

Approximately the same amount of positive and negative items were assigned to the Self figure, except that there was a tendency for the first born to assign slightly more positive than negative items to Self. Since homogeneity of variance was not obtained in any of the 3 analyses of the Self figure, there appeared to be a bit of a spread within groups as to the number and quality of mentions made of Self. In fact, 17 children, 19.3%, did not make use of the Self figure at all. One only child made 12 mentions of Self, though the median and mode over all groups was 2.

Father: Analysis of Total Involvement Scores

Table 11

Means of Total Involvement Scores
Assigned to Father

	Only	First	Second	Youngest
Female	29.9	15.0	9.0	14.1
Male	26.9	17.0	12.4	11.1

Sex. There was no statistically significant difference between sexes with regard to total involvement with Father.

Birth order. Significant differences were observed between only and all other birth order groups, and between the first born and second born. The only child produced more mentions of Father than any other birth order group. The first born child, both male and female, made more mentions of Father than the second and youngest child did, though only the difference between the first born and second born was statistically significant at the required .05 level.

Father: Analysis of Positive Involvement Scores

Table 12

Means of Positive Involvement Scores
Assigned to Father

	Only	First	Second	Youngest
Female	24.4	12.4	7.1	11.5
Male	18.7	13.6	10.0	8.6

Sex. There was no statistically significant difference between sexes with regard to positive involvement with Father.

Birth order. Significant differences were observed between the only child and all other birth order groups in tendency to assign positive mentions to Father. The results also suggested that the first born child produced more positive mentions of Father than did the second born and youngest children, though these differences were not statistically significant.

Father: Analysis of Negative Involvement Scores

Table 13

Means of Negative Involvement Scores
Assigned to Father

	Only	First	Second	Youngest
Female	5.5	2.7	1.8	2.7
Male	8.1	3.4	2.4	2.5

Sex. There was no statistically significant difference between sexes with regard to negative involvement with Father, though there was a tendency for boys to produce a higher negative involvement score with Fathers than did girls.

Birth order. Significant differences were observed between the only and all other birth order groups in tendency to assign negative mentions to Father. The only child assigned more negative mentions to Father than did any other group.

Quality of Items Assigned to Father

The ratio of positive to negative items assigned to Father was roughly 3 to 1. Children of all birth order groups therefore appear to view their fathers favourably on the FRT.

Mother: Analysis of Total Involvement Scores

Table 14

Means of Total Involvement Scores
Assigned to Mother

	Only	First	Second	Youngest
Female	29.4	11.6	11.7	14.5
Male	27.2	16.9	10.6	15.5

Sex. There was no statistically significant differences between sexes with regard to total involvement with Mother.

Birth order. Significant differences were observed between only children and all other birth order groups. The only child mentioned

Mother more often than any other birth order group. However, whereas the first born came second in involvement with Father, his involvement with Mother was no more intense than that perceived by other groups.

Mother: Analysis of Positive Involvement Scores

Table 15

Means of Positive Involvement Scores
Assigned to Mother

	Only	First	Second	Youngest
Female	22.9	10.1	10.6	12.8
Male	22.4	14.0	9.4	14.4

Sex. There was no statistically significant difference between sexes with regard to positive involvement with Mother.

Birth order. Significant differences were observed between only children and other birth order groups. The only child reported more positive involvement with Mother than did other groups. There was also a slight indication that the youngest child experienced more positive involvement with Mother than did first borns or second borns.

Mother: Analysis of Negative Involvement Scores

Table 16

Means of Negative Involvement Scores
Assigned to Mother

	Only	First	Second	Youngest
Female	6.5	1.5	1.0	1.7
Male	4.7	2.9	1.2	1.2

Sex. There was no significant difference between sexes with regard to negative involvement with Mother.

Birth order. Significant differences were observed between only children and all other birth order groups. The only child experienced more negative involvement with Mother than any other group.

Quality of Items Assigned to Mother

The ratio of positive to negative items assigned to Mother was roughly 5 to 1. This was a somewhat larger ratio than that reported with Father. It appears that although children experience a similar amount of involvement with both parents, the involvement with father may be perceived as slightly more negative than that experienced between the child and his mother.

Siblings: Analysis of Total Involvement Scores

Table 17

Means of Total Involvement Scores
Assigned to Siblings

	First	Second	Youngest
Female	37.1	34.1	29.5
Male	30.5	31.3	31.8

Sex. There was no statistically significant difference between sexes with regard to total involvement reported with Siblings.

Birth order. There was no statistically significant difference between birth order groups in regard to total involvement reported with Siblings. First born females appeared slightly more involved with Siblings than did other groups.

Siblings: Analysis of Positive Involvement Scores

Table 18

Means of Positive Involvement Scores
Assigned to Siblings

	First	Second	Youngest
Female	19.5	13.3	8.5
Male	13.5	10.6	13.3

Sex. There was no statistically significant difference between sexes with regard to positive involvement with Siblings.

Birth order. There was no statistically significant difference between birth order groups in regard to positive involvement reported with Siblings. First borns, especially females, reported a slightly more positive relationship with Siblings than did other groups.

Siblings: Analysis of Negative Involvement

Table 19

Means of Negative Involvement Scores Assigned to Siblings

	First	Second	Youngest
Female	17.5	20.8	21.0
Male	17.0	20.7	18.5

Sex. There was no statistically significant difference between sexes with regard to negative involvement with Siblings.

Birth order. There was no statistically significant difference between birth order groups in regard to negative involvement reported with Siblings, though first borns reported slightly less negative involvement with Siblings than did second borns and youngest children.

Quality of Items Assigned to Siblings

When comparing group means, combined means for males and females, it was evident that all birth order groups assigned more negative than positive items to Siblings. The second and youngest child assigned roughly twice as many negative as positive mentions to Siblings. The first born male assigned a somewhat smaller amount of negative mentions to Siblings, though the negative items did outweigh the positive ones. The first born female, on the other hand, assigned slightly more positive than negative mentions to Siblings, thereby reporting a better relationship with Siblings than any other group.

Summary of Results

Linkage Response

Sixty-four percent of the children produced linkage responses, thereby indicating that such responses may be the rule rather than the exception. Girls and boys did not differ in their tendency to produce linkage responses. The only child produced most linkage responses, followed by the first born, then the youngest and finally the second born. The difference between the only and second born child was statistically significant at the .02 level, the other differences not being statistically significant.

Hypothetical Model, Sample Model and Proportionate Distribution

Support for Anthony and Bene's (1957) hypothetical model suggesting that Mother would receive most mentions, then Father, followed by Siblings and Self, was not found in the main. Instead it was established that Mother and Father received an equal share of mentions. In addition, involvement with Siblings superseded that with parents. Roughly 1/5 of mentions were discarded into Nobody, giving Nobody more items than either Father or Mother. Siblings received most mentions, Self least.

Analysis of the Variables Nobody, Self, Father, Mother, and Siblings by Sex

No significant differences were found on any of the variables with respect to sex. Girls and boys produced quite similar distributions. There were some indications that boys discarded more positive items than girls, and that they assigned more negative items to Father.

Analysis of the Variables Nobody, Self, Father, Mother, and Siblings by Birth Order

Nobody. The only child discarded more items than any other group. There was no sigificant difference between groups in tendency to reject positive items, though the second borns showed a trend to discard more positive items than other groups. The only child discarded nearly twice as many negative items on the FRT as did children of other birth order groups.

Self. On the average only 2-3 items were assigned to Self. There was a trend for the only child to assign more items to Self, particularly negative items, though these findings were only of borderline significance. Homogeneity of variance was not obtained in any of the analyses of the Self figure, which suggests variety of responses within groups. 19.3% of children did not make use of the Self figure at all.

Father. The only child produced significantly more mentions of Father than any other group, and the first born mentioned Father statistically more often than did the second born. The only child also produced significantly more positive and negative mentions of Father than other groups. Children of all birth order groups produced roughly 3 times as many positive as negative mentions of Father.

Mother. The only child mentioned Mother significantly more often than any other group. The only child reported significantly more positive and negative involvement with Mother. There was a non-significant trend for the youngest child to perceive more positive involvement with Mother than did first borns and second borns. The ratio of positive to negative items assigned to Mother was roughly 5 to 1. Children reported a similar amount of total involvement with parents, though the involvement with Mother may be slightly more positive than that with Father.

Siblings. There was no statistically significant difference between first born, second born, and youngest children in their reported total involvement with Siblings. Also there was no difference in positive and negative involvement between groups. When comparing group means, it was evident that all groups assigned more negative than positive items to Siblings. However, the first born female, considered separately, assigned slightly more positive than negative mentions to Siblings, thereby reporting better perceived sibling relationships than any other group.

CHAPTER V

DISCUSSION, CONCLUSIONS AND IMPLICATIONS

General Conclusions

Whereas the tendency to produce linkage responses on the FRT may be a product of birth order, the character of the response itself does not vary much with the order of birth, unless the child is an only child. The sex of the child does not appear to significantly influence the child's FRT response. Results of the FRT generally support Parent-Child research which suggests that the child perceives an equal amount of involvement with both parents (Livson, 1966) but may judge the father as being slightly more negative (Goldin, 1969). Investigation of FRT results also support the Adlerian hypothesis of children's quest for a positive affiliation with parents and subsequent sibling rivalry (Corsini, 1973). The normality of sibling conflict is documented.

Validity of the Only Child's Results

Analysis of the results suggest that particularly the only child produced a unique profile on the FRT. The question arises whether this profile is a product of "statistical necessity" rather than a result of experiential differences.

One must assume that the only child is as free to place his items in his chosen categories as other children. If an item does not fit, he may discard it. The only child discards more items than any other group. Since the only child is at all times free to discard as many items as he likes and since he is obviously willing to take advantage of this rule when he feels it appropriate, the author is of the opinion that the items which are, indeed, assigned to Self, Father, or Mother -

are intended for these categories. There is no reason why one should not accept the only child's interpretation of his situation if one is willing to do so with other categories of birth.

When the quality of items is taken into consideration it becomes evident that, whereas the only child discards an equal amount of positive items to other groups, he discards significantly more negative items than children of other birth orders. Since the negative items are generally assigned to Siblings, it is logical that the only child, who has no siblings, should discard these items. The only child simply does not appear to experience many of these negative items as relevant to his situation.

A counter argument could be that the only child, having more to lose by expressing hostile feelings toward his only family members, his parents, perhaps hides these feelings under the disguise that they fit "Nobody." However, analysis of parental figures shows that the only child already volunteers a greater negative involvement with parents than do other groups. The only child is, therefore, not reluctant to admit negative involvement; rather he draws the line where he finds it appropriate.

It appears to the author that the profile exhibited by the only child on the FRT is built on experiential reality, as well as statistical necessity. The fact that the only child has no siblings, forces him to experience human emotions within a closed circle. He exhibits more involvement, both positive and negative, with parents, because they are the only close people readily available to him. As siblings enter into the picture the FRT clearly illustrates that involvement with parents becomes less intense. Feelings the only child assigned to parents or discarded altogether, are now assigned to siblings, particularly if the item is somewhat negative in nature. In families with more than one child, siblings are seen to take on roles which parents in the one child family fulfill. Generally, analysis of data from the FRT appears to support the Durkheimian (1947) model which outlines less emotional intensity and greater distribution of roles in larger families.

The FRT seems to effectively pick up on differences which one would expect both from theoretical and statistical considerations. The significant differences which the only child exhibits on the FRT therefore appear valid, and provide necessary information should the test be used in an only child situation.

Agreement with Previous Research

Some of the present results confirm Livson (1966) and Frost's (1969) findings that children normally experience an equal amount of involvement with both parents. The present study also confirms Frost's findings that whereas parents are assigned mostly positive items, siblings receive a majority of negative mentions. In addition, both this and Frost's study suggest that Nobody receives more mentions than either Father or Mother.

Furthermore, when informally comparing the means for Total Involvement Scores obtained by Nobody, Father, and Mother in Frost's (1969) study, other agreements with the present investigation are:

1. The reported means for the three variables are quite similar in both studies.

2. Both studies report no significant differences in re-

sponses due to sex.

3. In both studies Mother receives numerically, but not statistically, more mentions than Father.

Since Frost did his study on grade 6 children, one can, perhaps, assume that no great changes in response to the FRT occur between grades 3 and 6, except that the grade 6 children did appear to discard more positive items.

The present study departs, however, somewhat from Frost's endorsement of Bene and Anthony's (1957) hypothetical distribution of the relative importance of family members. Frost provides separate categories for different sibling combinations such as oldest sibling and youngest sibling. By doing so, he fails to report on the fact that in terms of total involvement, perceived sibling involvement may supersede that of parental involvement.

The present results support previous findings in Parent-Child research suggesting that Father may be regarded as more punitive (Harris & Tseng, 1957; Stinnet, Farris, & Walters, 1974). Children may still tend to see Father in a disciplinarian role, as they report a slightly more negative involvement with Father than with Mother on the FRT.

On the other hand, differences in perception of parental role due to sex were not evident in the results, even though such differences are documented in literature (Emmerich, 1961). There was some indication that boys may discard more items than girls. Boys are, perhaps, not as inclined to dwell on feelings as girls. However, the examiner did not observe any differences in behavior between sexes during the testing, both sexes willingly considered all statements: It appeared more as if the boys found slightly more items quite inappropriate or foreign to their experience and therefore logically excluded them.

One reason why significant differences between sexes were not observed may be due to the limited age range of subjects. Goldin (1969) suggests that differences may become more obvious during adolescence. Another reason for the lack of differentiation between the sexes may lie in the general nature of the items. The items explore rather universal feelings of love or dislike, instead of feelings tied to specific situational issues where differential rearing issues may evolve.

Birth Order Profiles on the FRT

The only child emerges as seeing himself in close contact with his parents. His great tendency to produce linkage responses may reveal a reluctance to differentiate between parents and to be "unfair" to them. He may not want to "reward" one parent by more positive mentions than the other. He tends to view his parents as a unit, providing him with essentially the same kind of emotions. His feelings for his parents are somewhat ambivalent, though the positive feelings outweigh the negative. He is able to criticize both himself and his parents, and he can also identify positive aspects of their relationship. When the only child is found to be dependent and adult oriented in literature (Hilton, 1967), one can see that this may be a result of his closely perceived relationship with his parents.

The first born child, in many respects, presents a profile quite similar to that of the only child; only the emotional intensity may be less. The first born is reported in literature to be sensible, responsible, and trained to be a parent (Sutton-Smith, et al, 1964). Perhaps this is the reason why on the FRT, the first born reports a better relationship with siblings than do other groups. The first born presents a more positive view of Father than the second born and youngest, thereby aligning himself with the source of authority and discipline, perhaps for purposes of utilizing similar techniques with his contemporaries. He views his siblings with less negativism than younger siblings exhibit, perhaps because he receives subtle encouragement from his parents in emulating their behavior.

That the first born benefits from his position of power may be evident in his view of the Self figure. Whereas other birth order groups assigned an equal amount of positive and negative items to Self, there was a tendency for the first born to assign more positive than negative items to Self. The first born frequently referred to himself as cheerful, helpful, and "a good sport," thereby taking some of the responsibilities of "cheerful leadership" upon his shoulders.

The second child produces a somewhat different profile from the two previously mentioned. Firstly, the second born produces least linkage responses. Apparently the second born feels freer than other birth order groups to express like or dislike for family members. The second born appears more prepared to appraise each individual separetely and is less concerned about "fairness." This harshness may be a result of what Adler (1927) calls perceived second class citizenship, a sort of revenge for perceived slights received whilst being crowded in the middle without any special position. However, this clear cut differentiation could also be due to a greater daring in independent judgment, caused by self sufficiency born of necessity.

The second born is also set apart by his tendency to discard more positive items than any other group. In other words, the second born found many positive mentions inappropriate for his family members and discarded them as if no one in his family deserved them. The second born therefore appears somewhat more reluctant than other groups to praise his family relationships. He may, of course, also have been more frank than others.

In addition, as can be seen in Table 3, the second born perceived himself as proportionately least involved with parents and most involved with siblings. The second born therefore sees himself as more separated from parental support than other groups. He turns to his siblings who are more equal to himself in power and influence. From this position of independence he negotiates on his own terms.

The youngest child did not exhibit any unique features on his FRT profile, except that he perceived a more positive relationship with his mother than did other groups. He may still be benefiting from the extra care and attention mother devotes to the youngest child. He does not, however, see his siblings as being particularly partial to his special position, as he competed with the second born for the worst perceived relationship with his siblings.

Proposed Resolution to Linkage Response Issue

Since the linkage response may be expected to occur with about half of the subjects tested, it might be useful to devise a procedure which can meet both clinical and statistical requirements. It is therefore suggested that the linkage response be allowed within the following framework:

1. Instructions be given as outlined in FRT manual (Anthony & Bene, 1957).

2. When a child automatically produces a linkage response, all the relevant variables should be assigned one point.

3. The examiner then asks the subject to identify whom the item fits best. This information is added by changing the 1 already in the entry to an X.

4. All later linkage responses should be followed up by identifying whom the item fits best, and this information should be added by changing the entries to X's.

The advantage of using this approach is that whether the examiner wants to use the "forced choice" approach or the "multiple information" approach, he now has all the necessary information available. Comparisons with previous studies will not be impossible as the basic procedures are still the same. Statistical analyses as outlined by Bene (1973) can still be used. Respect is shown for the child's perception as all his opinions are entered on the form in his presence. If the examiner is interested in the total clinical profile he may use all the information available to him. If the examiner is more concerned about the reliability and validity or research he may use only the "forced choice" entries, thereby ensuring that each subject has an equal number of entries.

Implications for Further Research

One of the most urgent aims for research on the FRT should be to establish a proper set of norms. Unfortunately, Frost (1969) does not mention whether his "attempt at norms" was based on a "forced choice" approach, or whether linkage responses were allowed. It would appear that a study following the previously mentioned procedure of allowing linkage responses should be carried out. Calculations using "forced choice" and "multiple information" data should be executed in order to evaluate whether the two procedures cause differences in proportionate distribution, means and standard deviations. Future norms may be based on either approach, depending on whether one considers the FRT primarily a clinical or research tool.

Since the present study, as well as Frost's (1969) study, report negligible differences between girls and boys in the 8-12 age group, one set of norms may be sufficient. Also birth order may be controlled for by selecting a sample representative of the general population, although a caution should be issued against comparing the results of only children against these norms.

Another angle of particular interest to researchers of family relationships would be a closer study of the information yielded by the FRT on sibling relationships. Although the FRT depicted a rather bleak picture of sibling relationships, the examiner observed that none of the subjects appeared to think that the relationship with their siblings was distressingly or unusually poor. Questions of interest would be if, when, and how sibling involvement changes throughout the development of an individual. If one could arrive at the reasons for the transformation, one might be better able to understand the causes of sibling squabbles and rivalry.

In conclusion, this author must agree with Kauffman (1970) who suggested that some items on the FRT may need revision to facilitate easier comprehension. Some change of content and revision of the paper figures may also be in order, as some of the children experienced problems in relating to the English wording of the items and the English clothing of the figures. Finally, a theoretical context for the questions may have to be explored, which together with the norms may aid the examiner in the interpretation of the test.

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APPENDICES

APPENDIX A

The First 68 Items on the FRT

1. This person in the family is very nice.
2. This person in the family is very jolly.
3. This person in the family always helps the others.
4. This person in the family has the nicest ways.
5. This person in the family never lets you down.
6. This person in the family is lots of fun.
7. This person in the family deserves a nice present.
8. This person in the family is very nice to play with.
9. This person in the family is a good sport.
10. This person in the family is very kind-hearted.
11. I like to cuddle this person in the family.
12. I like to be kissed by this person in the family.
13. I sometimes wish I could sleep in the same bed with this person in the family.
14. I wish I could keep this person near me always.
15. I wish this person in the family would care for me more than for anybody else.
16. When I get married I want to marry somebody who is just like this person in the family.
17. I like this person in the family to tickle me.
18. I like to hug this person in the family.
19. This person in the family is sometimes a bit too fussy.
20. This person in the family nags sometimes.
21. This person in the family sometimes spoils other people's fun.
22. This person in the family is sometimes quick-tempered.

23. This person in the family is sometimes bad-tempered.

24. This person in the family sometimes complains too much.

25. This person in the family is sometimes annoyed without good reason.

26. This person in the family sometimes grumbles too much.

27. This person in the family is sometimes not very patient.

28. This person in the family sometimes gets too angry.

29. Sometimes I would like to kill this person in the family.

30. Sometimes I wish this person in the family would go away.

31. Sometimes I hate this person in the family.

32. Sometimes I feel like hitting this person in the family.

33. Sometimes I think I would be happier if this person was not in our family.

34. Sometimes I am fed-up with this person in the family.

35. Sometimes I want to do things just to annoy this person in the family.

36. This person in the family can make me feel very angry.

37. This person in the family is kind to me.

38. This person in the family is very nice to me.

39. This person in the family likes me very much.

40. This person in the family pays attention to me.

41. This person in the family likes to help me.

42. This person in the family likes to play with me.

43. This person in the family really understands me.

44. This person in the family listens to what I have to say.

45. This person in the family likes to kiss me.

46. This person in the family likes to hug me.

47. This person in the family likes to cuddle me.

48. This person in the family likes to help me with my bath.

49. This person in the family likes to tickle me.

50. This person in the family likes to be in bed with me.

51. This person in the family always wants to be with me.

52. This person in the family cares more for me than for anybody else.

53. This person in the family sometimes frowns at me.

54. This person in the family likes to tease me.

55. This person in the family sometimes tells me off.

56. This person in the family won't play with me when I like it.

57. This person in the family won't always help me when I am in trouble.

58. This person in the family nags at me.

59. This person in the family sometimes gets angry with me.

60. This person in the family is too busy to have time for me.

61. This person in the family hits me a lot.

62. This person in the family punishes me too often.

63. This person in the family makes me feel silly.

64. This person in the family makes me feel afraid.

65. This person in the family is mean to me.

66. This person in the family makes me feel unhappy.

67. This person in the family is always complaining about me.

68. This person in the family does not love me enough.

APPENDIX B

Table 20

Mean Distribution - Females

Total Involvement Score (Tot. Inv.), Positive Involvement Score (Pos. Inv.), and Negative Involvement Score (Neg. Inv.) for only, first born, second born, and youngest females on the FRT variables: Nobody, Self, Father, Mother, and Siblings (N = 88, Age: 8-10).

	Only	First	Second	Youngest
Nobody, Tot. Inv.	25.6	16.0	17.0	14.3
Nobody, Pos. Inv.	3.8	3.1	6.9	4.7
Nobody, Neg. Inv.	21.9	12.9	10.1	9.5
Self, Tot. Inv.	4.0	1.5	2.0	1.5
Self, Pos. Inv.	2.0	1.0	1.3	1.1
Self, Neg. Inv.	2.0	.4	.8	.4
Father, Tot. Inv.	29.9	15.0	9.0	14.1
Father, Pos. Inv.	24.4	12.4	7.1	11.5
Father, Neg. Inv.	5.5	2.7	1.8	2.7
Mother, Tot. Inv.	29.4	11.6	11.7	14.5
Mother, Pos. Inv.	22.9	10.1	10.6	12.8
Mother, Neg. Inv.	6.5	1.5	1.0	1.7
Siblings, Tot. Inv.	-	37.1	34.1	29.5
Siblings, Pos. Inv.	-	19.5	13.3	8.6
Siblings, Neg. Inv.	-	17.5	20.8	21.0

Table 21

Mean Distribution - Males

Total Involvement Score (Tot. Inv.), Positive Involvement Score (Pos. Inv.), and Negative Involvement Score (Neg. Inv.) for only, first born, second born, and youngest males on the FRT variables: Nobody, Self, Father, Mother, and Siblings (N = 88, Age: 8-10).

	Only	First	Second	Youngest
Nobody, Tot. Inv.	24.6	21.5	17.6	17.5
Nobody, Pos. Inv.	4.4	6.6	7.6	5.6
Nobody, Neg. Inv.	20.2	14.9	10.0	11.8
Self, Tot. Inv.	3.6	3.2	1.6	2.3
Self, Pos. Inv.	1.6	2.2	.6	.9
Self, Neg. Inv.	1.9	1.0	1.0	1.4
Father, Tot. Inv.	26.9	17.0	12.4	11.1
Father, Pos. Inv.	18.7	13.6	10.0	8.6
Father, Neg. Inv.	8.1	3.4	2.4	2.5
Mother, Tot. Inv.	27.2	16.9	10.6	15.5
Mother, Pos. Inv.	22.4	14.0	9.4	14.4
Mother, Neg. Inv.	4.7	2.9	1.2	1.2
Siblings, Tot. Inv.	-	30.5	31.3	31.8
Siblings, Pos. Inv.	-	13.5	10.6	13.3
Siblings, Nev. Inv.	-	17.0	20.7	18.5